



SEQUENCE LISTING

<110> Meloen, Robert H  
Oonk, Hendrica B

<120> PEPTIDE, IMMUNOGENIC COMPOSITION AND VACCINE OR  
MEDICAL PREPARATION, A METHOD TO IMMUNISE ANIMALS  
AGAINST THE HORMONE LHRH, AND ANALOGS OF THE LHRH  
TANDEM REPEAT PEPTIDE AND THEIR USE AS VACCINE

<130> 3516.2US

<140> US 09/876,257

<141> 2001-06-06

<160> 7

<170> PatentIn version 3.1

<210> 1

<211> 10

<212> PRT

<213> Unknown

<220>

<223> Luteinising Hormone Releasing Hormone (LHRH) from the  
hypothalamus of an undisclosed mammal.

<220>

<221> misc feature

<222> (1)..(1)

<223> X at position 1 = pyroglutamic acid

<220>

<221> misc feature

<222> (10)..(10)

<223> X at position 10 = glycine amide

<400> 1/

Xaa His Trp Ser Tyr Gly Leu Arg Pro Xaa  
1 5 10

<210> 2

<211> 20

<212> PRT

<213> Artificial Sequence

Do not  
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JRL  
4.22.2003

<220>

<223> Vaccine against LHRH from the hypothalamus of an undisclosed mammal.

<220>

<221> misc feature

<222> (1)..(1)

<223> X at position 1 = preferably pyroglutamic acid, but can also be glutamine having attached thereto a tail comprising one or more additional amino acids

<220>

<221> misc feature

<222> (3)..(3)

<223> X at position 3 = tryptophan or formylated tryptophan

<220>

<221> misc feature

<222> (10)..(11)

<223> The bond between amino acids 10 and 11 could comprise a direct peptide bond between 10 and 11 or a spacer consisting of one or more amino acids, a shorter or longer hydrocarbon chain, or compound groups or molecules

<220>

<221> misc feature

<222> (13)..(13)

<223> X at position 13 = tryptophan or formylated tryptophan

<220>

<221> misc feature

<222> (10)..(20)

<223> The sequence comprising residues 10-20 may be repeated.

<220>

<221> misc feature

<222> (21)..(21)

<223> X at position 21 = either nothing or a tail comprising additional amino acid; preferably Cys, the C terminal cysteine being added in connection with a possible coupling of the peptide to a carrier protein.

<400> 2

Xaa	His	Xaa	Ser	Tyr	Gly	Leu	Arg	Pro	Gly	Gln	His	Xaa	Ser	Tyr	Gly
1			5					10						15	

Leu Arg Pro Xaa  
20

<210> 3  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Vaccine against LHRH from the  
hypothalamus of an undisclosed mammal.

<220>  
<221> misc feature  
<222> (1)..(1)  
<223> X at position 1 = pyroglutamic acid

<220>  
<221> misc feature  
<222> (3)..(3)  
<223> X at position 3 = tryptophan or N-formyl-Trp

<220>  
<221> misc feature  
<222> (13)..(13)  
<223> X at position 13 = tryptophan or N-formyl-Trp

<220>  
<221> misc feature  
<222> (10)..(19)  
<223> The sequence comprising residues 10-19 may be repeated.

<400> 3

Xaa His Xaa Ser Tyr Gly Leu Arg Pro Gly Gln His Xaa Ser Tyr Gly  
1 5 10 15

Leu Arg Pro Gly Cys  
20

<210> 4  
<211> 21  
<212> PRT

<213> Artificial Sequence

<220>

<223> Vaccine against LHRH from the  
hypothalamus of an undisclosed mammal.

<220>

<221> misc feature

<222> (1)..(1)

<223> X at position 1 = pyroglutamic acid

<220>

<221> misc feature

<222> (6)..(6)

<223> X at position 6 = a possible replacement of glycine  
by a dextrorotatory amino acid which in addition contains a side chain by which  
the LHRH tandem unit can be coupled to a carrier compound.

<220>

<221> misc feature

<222> (16)..(16)

<223> X at position 16 = a possible replacement of  
glycine by a dextrorotatory amino acid which in addition contains a side chain by which  
the LHRH tandem unit can be coupled to a carrier compound.

<400> 4

Xaa	His	Trp	Ser	Tyr	Xaa	Leu	Arg	Pro	Gly	Gln	His	Trp	Ser	Tyr	Xaa
1			5					10					15		

Leu	Arg	Pro	Gly	Cys
			20	

<210> 5

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Vaccine against LHRH from the  
hypothalamus of an undisclosed mammal.

<220>

<221> misc feature

<222> (1)..(1)

<223> X at position 1 = pyroglutamic acid

<220>

<221> misc feature

<222> (6)..(6)

<223> X at position 6 = Gly or a dextrorotatory amino acid containing a side chain that allows coupling to a carrier compound.

<400> 5

Xaa His Trp Ser Tyr Xaa Leu Arg Pro Gly Cys

1 5 10

<210> 6

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Vaccine against LHRH from the hypothalamus of an undisclosed mammal.

<220>

<221> misc feature

<222> (21)..(21)

<223> X at position 21 = glycine amide

<220>

<221> misc feature

<222> (1)..(21)

<223> The initial cysteine of the peptide comprising residues 1-21 is joined to the initial cysteine of an identical peptide (residues 22-42) to form a dimer.

<400> 6

Cys Gln His Trp Ser Tyr Gly Leu Arg Pro Gly Gln His Trp Ser Tyr

1 5 10 15

Gly Leu Arg Pro Xaa

20

### <213> Artificial Sequence

<223> Vaccine against LHRH from the hypothalamus of an undisclosed mammal.

<223> X at position 7 = a possible replacement of glycine by a dextrorotatory amino acid which in addition contains a side chain by which the LHRH tandem unit can be coupled to a carrier compound.

<223> X at position 17 = a possible replacement of glycine by a dextrorotatory amino acid which in addition contains a side chain by which the LHRH tandem unit can be coupled to a carrier compound.

<223> The initial cysteine of the peptide comprising residues 1-22 is joined to the initial cysteine of an identical peptide (residues 1-44) to form a dimer.

<400> 7

Cys Gln His Trp Ser Tyr Xaa Leu Arg Pro Gly Gln His Trp Ser Tyr  
1 5 10 15

Xaa Leu Arg Pro Gly Cys  
20